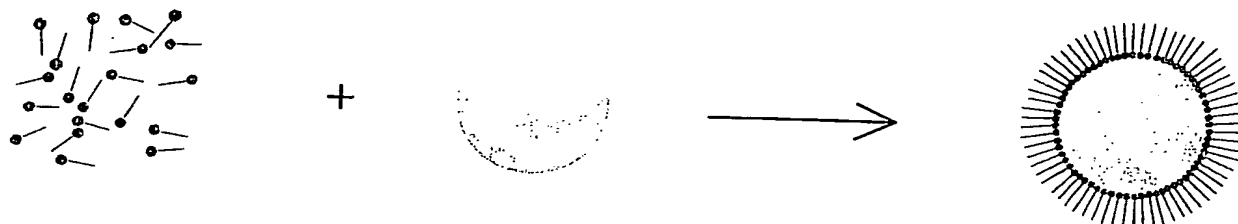
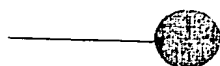


Figure 1



Key:

Alkythiol Oligonucleotide

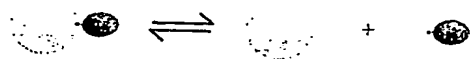


Gold Nanoparticle



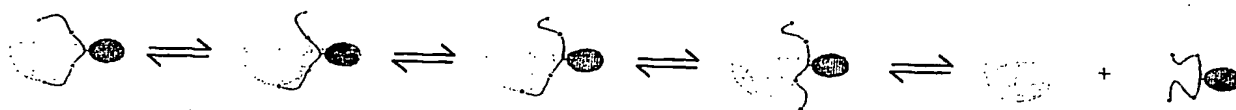
Figure 2

A) Dissociation of a monovalent NPC



$$K_d = \frac{[\text{Protein}][\text{Nucleic Acid}]}{[\text{Complex}]}$$

B) Dissociation of a multivalent NPC

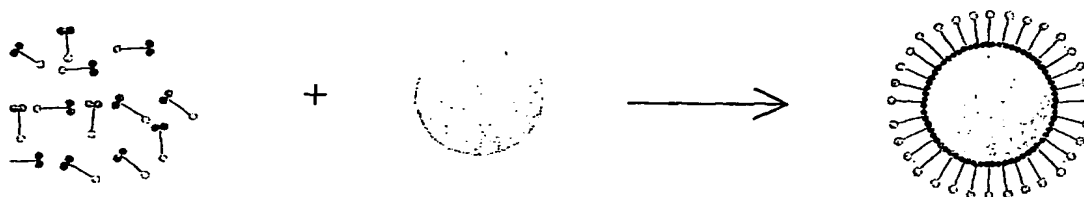


$$K_t = \frac{[\text{Protein}][\text{Nucleic Acid}]}{[\text{Complex}][\text{Intermediate 1}][\text{Intermediate 2}][\text{Intermediate 3}]}$$

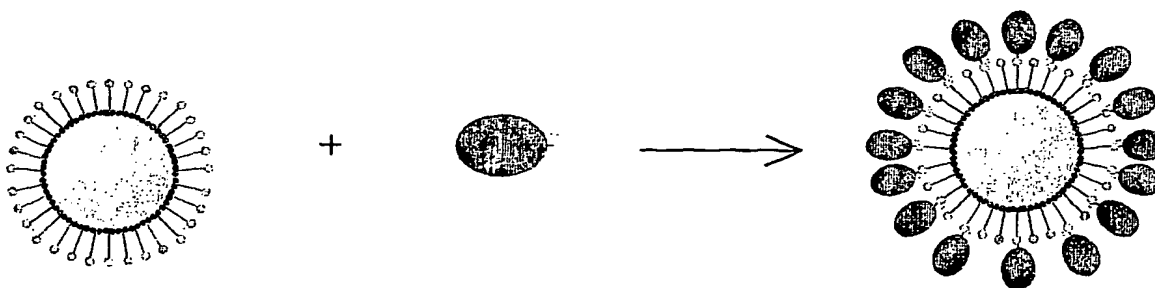
Where $K_t \ll K_d$

Figure 3

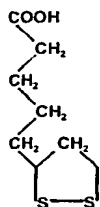
A) Divalent conjugation



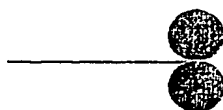
B) Covalent attachment of binding molecules



Key:



=



Avidin



Gold Nanoparticle



Figure 4

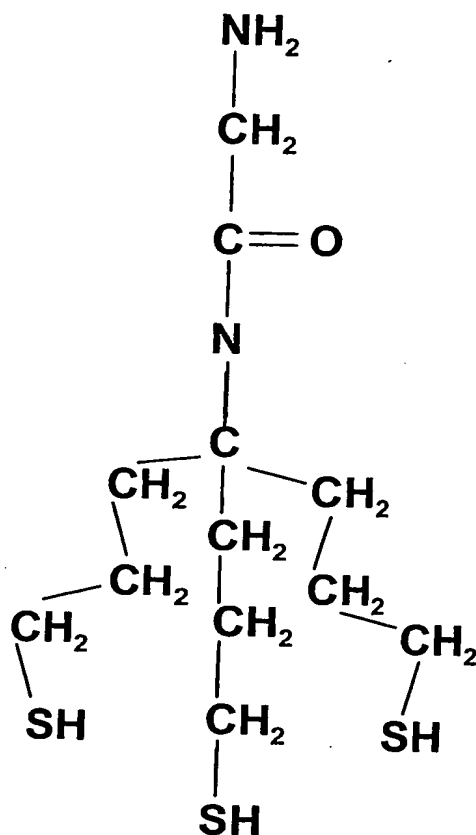
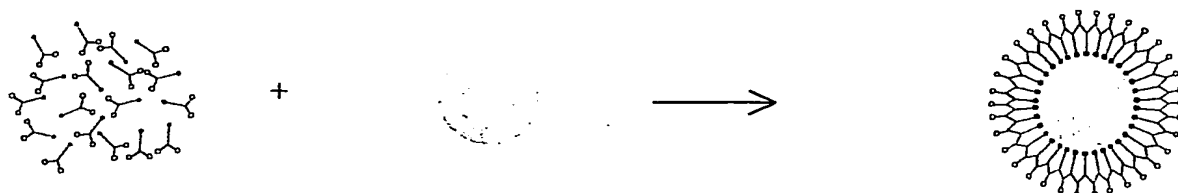
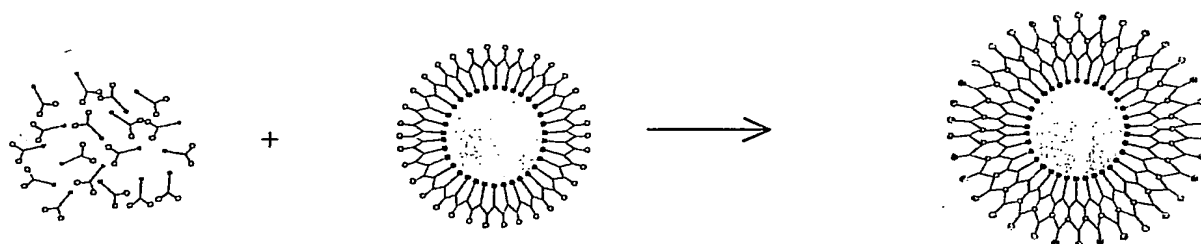


Figure 5

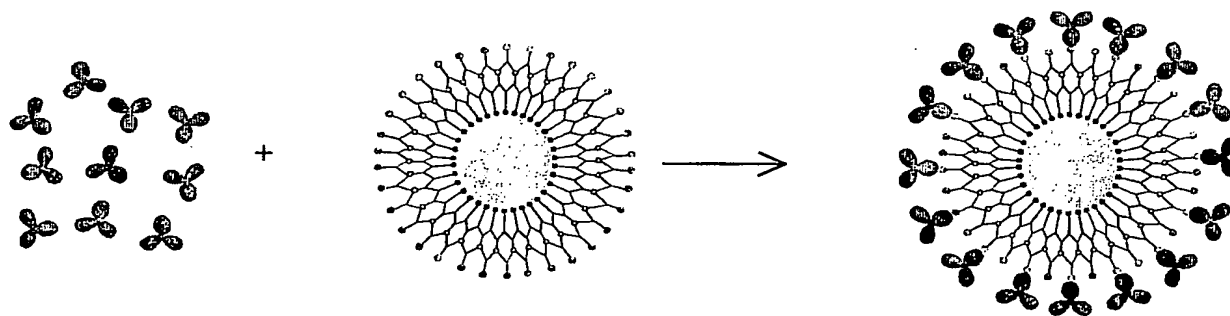
A) Monovalent conjugation



B) Polymerization (entrapment) and functionalization



C) Covalent attachment of binding molecules



Key:

Mercaptopropyltrimethoxy Silane

Gold Nanoparticle

Aminopropyltrimethoxy Silane

Antibody

Figure 6

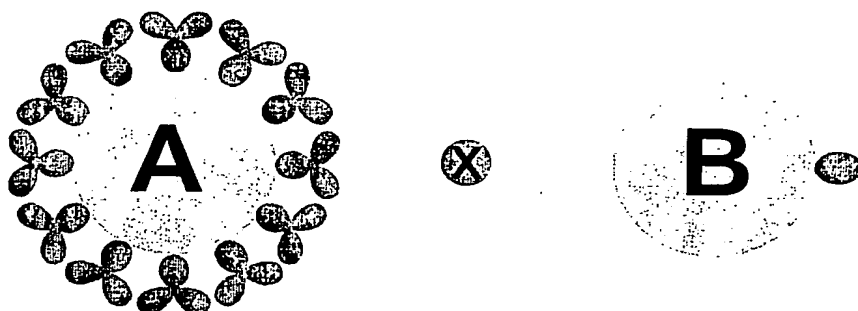


Figure 7

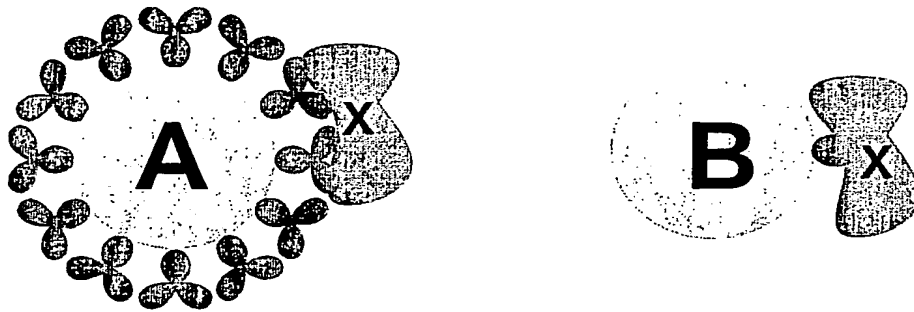


Figure 8

Separation Phase

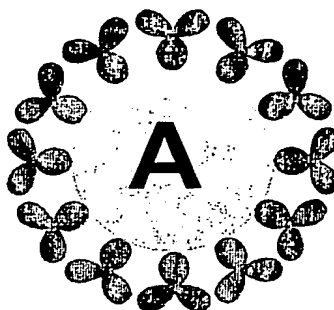
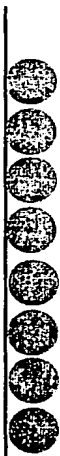


Figure 9

Separation Phase

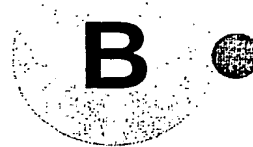
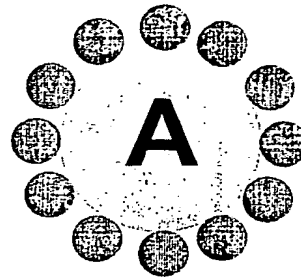
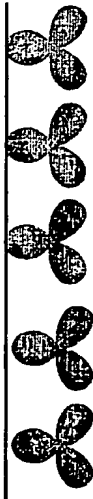
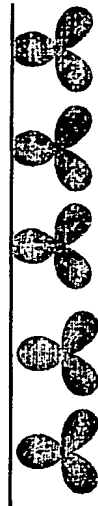
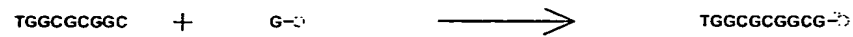
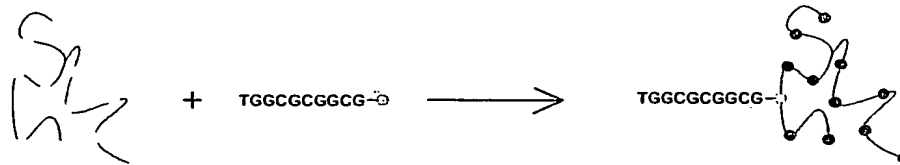


Figure 10

1) Activation



2) Substitution



3) Self Assembly

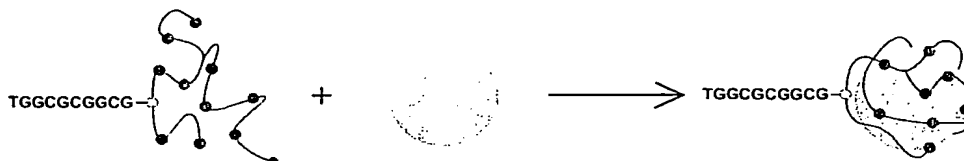


Figure 11

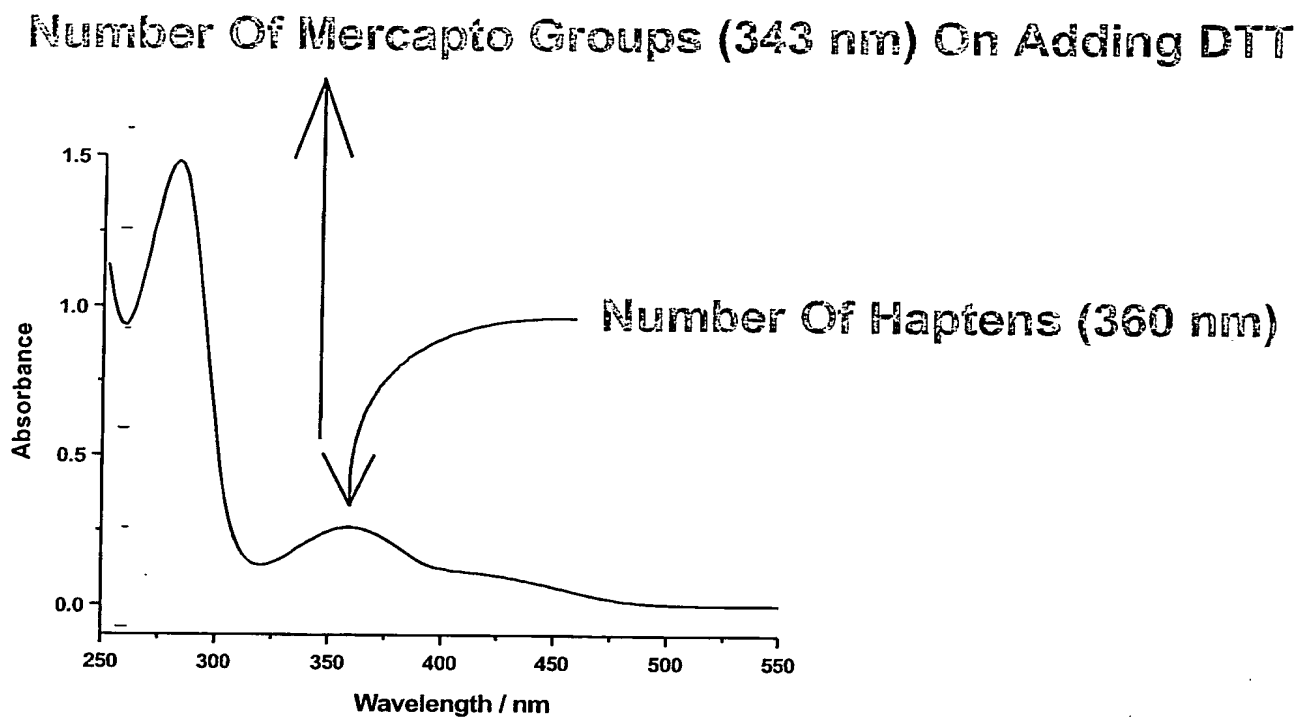


Figure 12

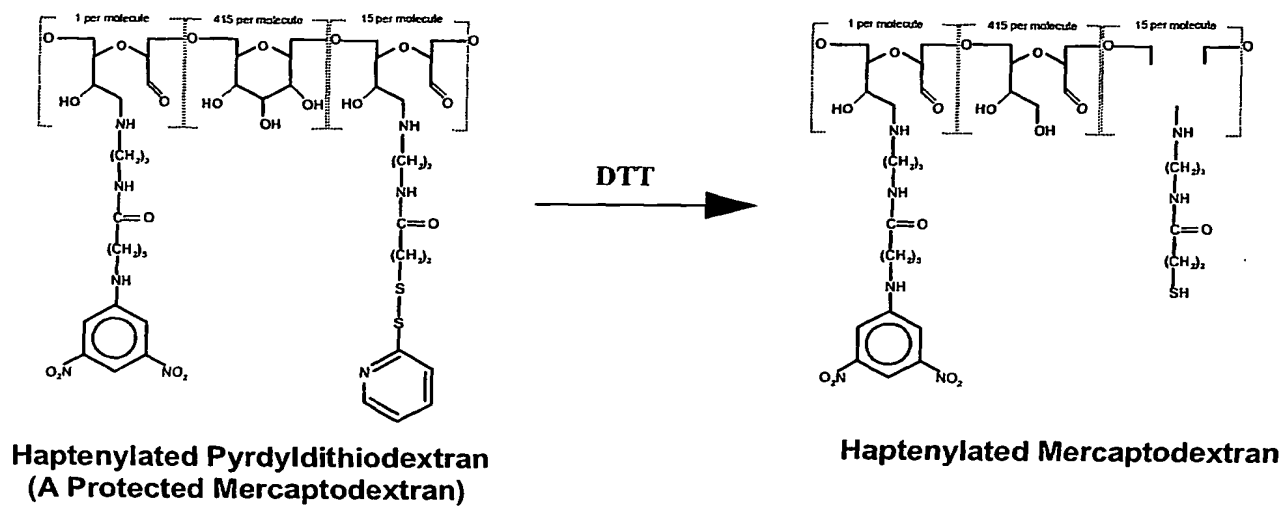


Figure 13

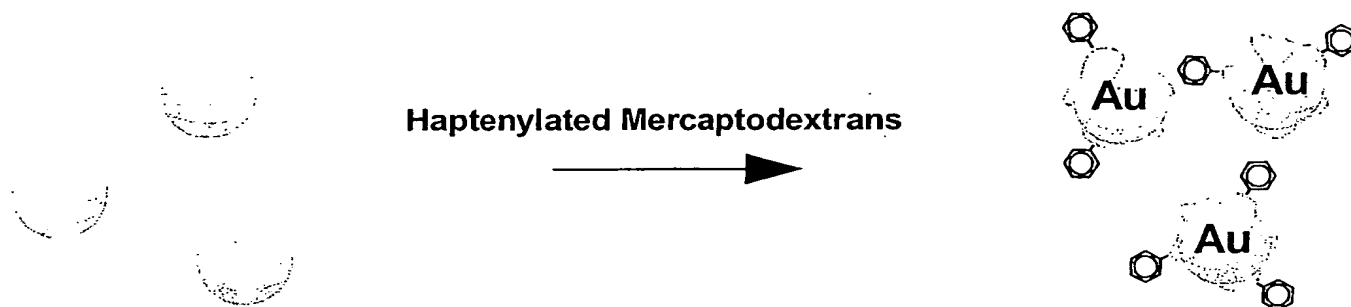


Figure 14

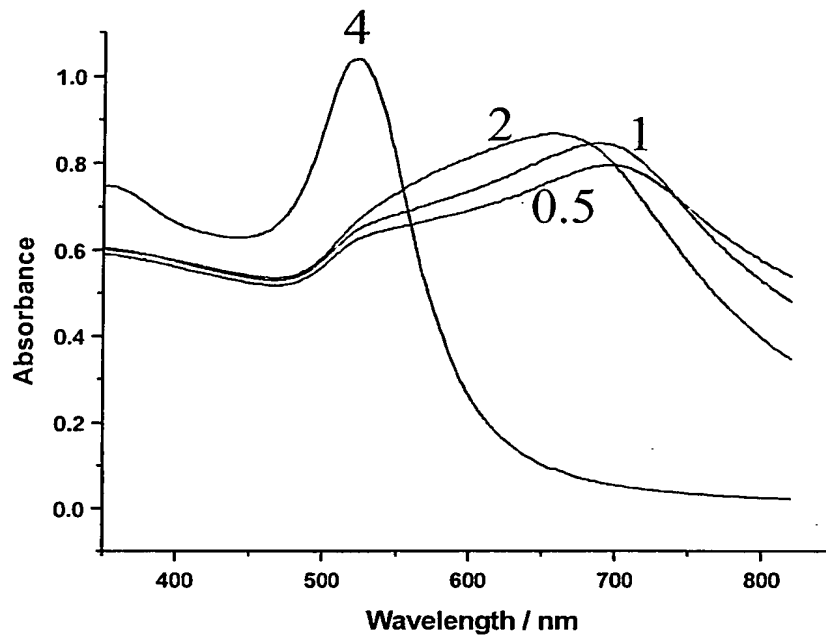


Figure 15

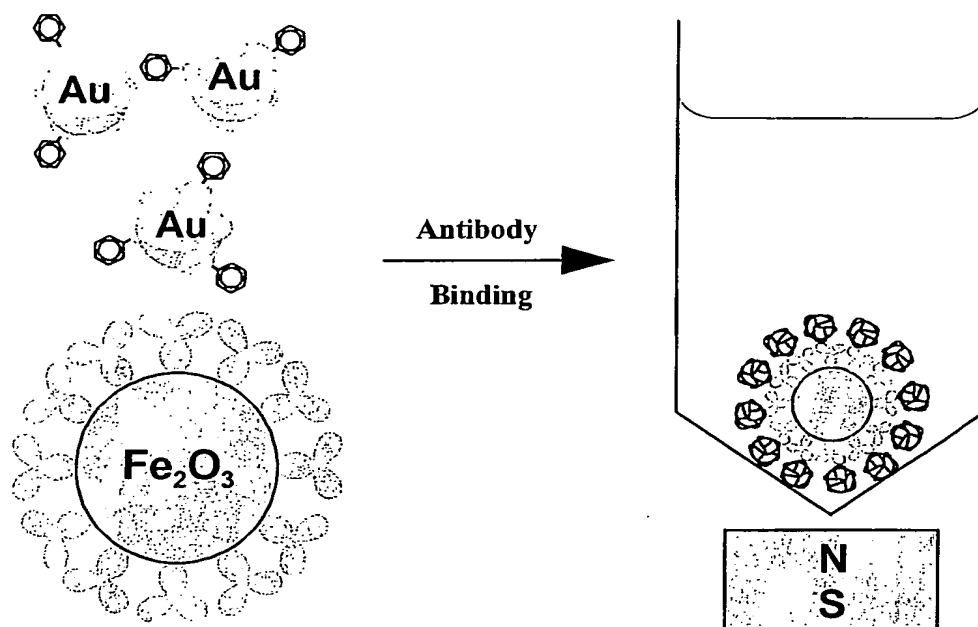


Figure 16

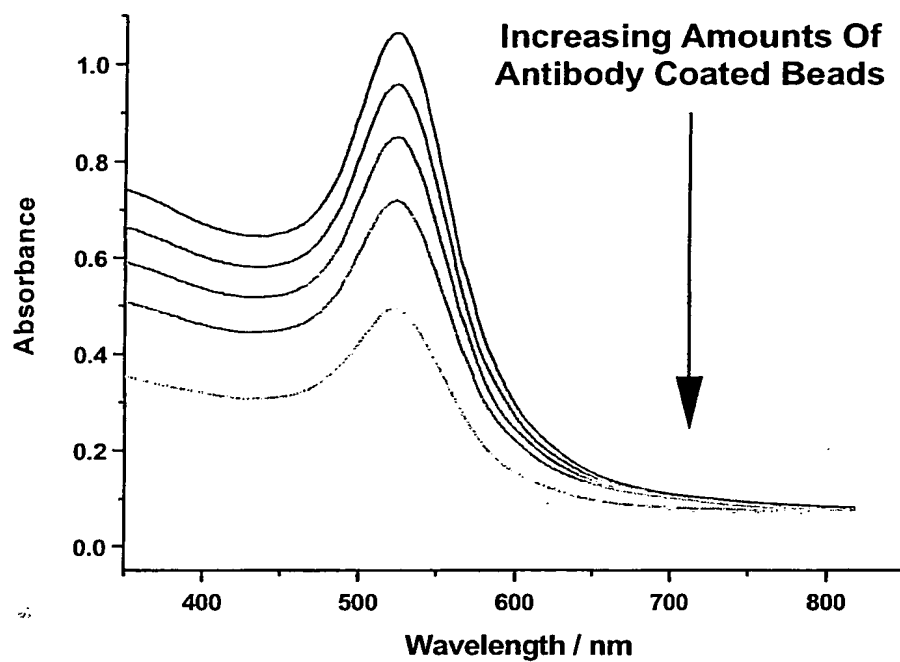


Figure 17

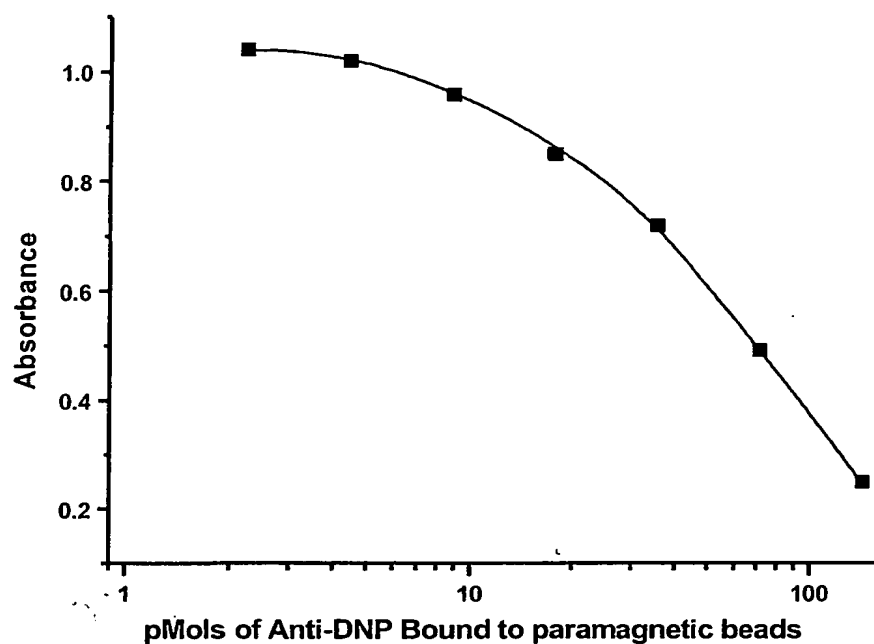


Figure 18

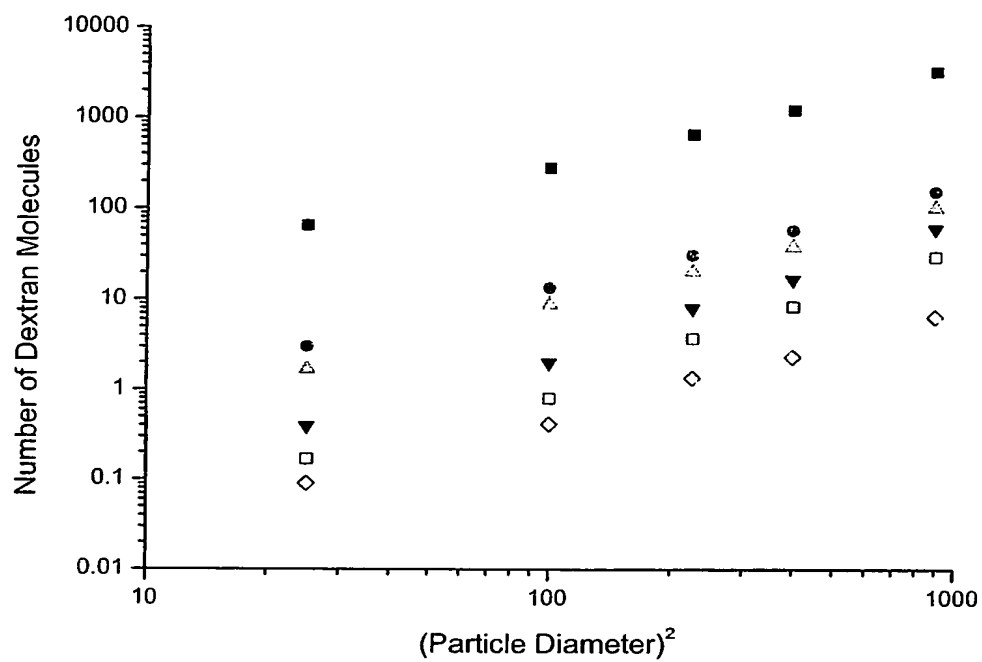


Figure 19

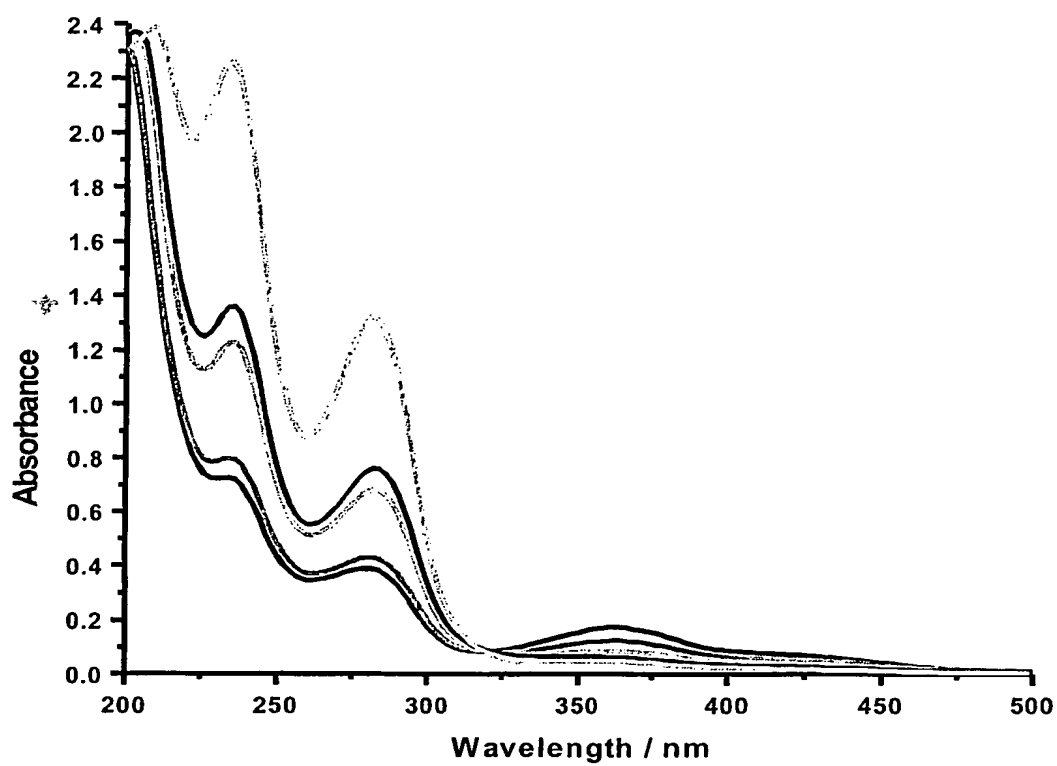


Figure 20

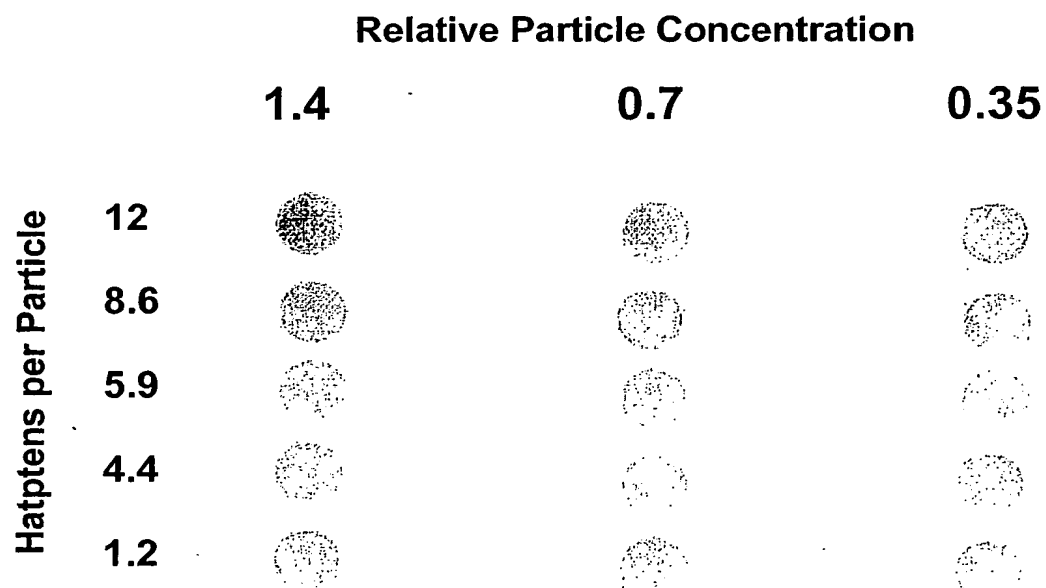


Figure 21

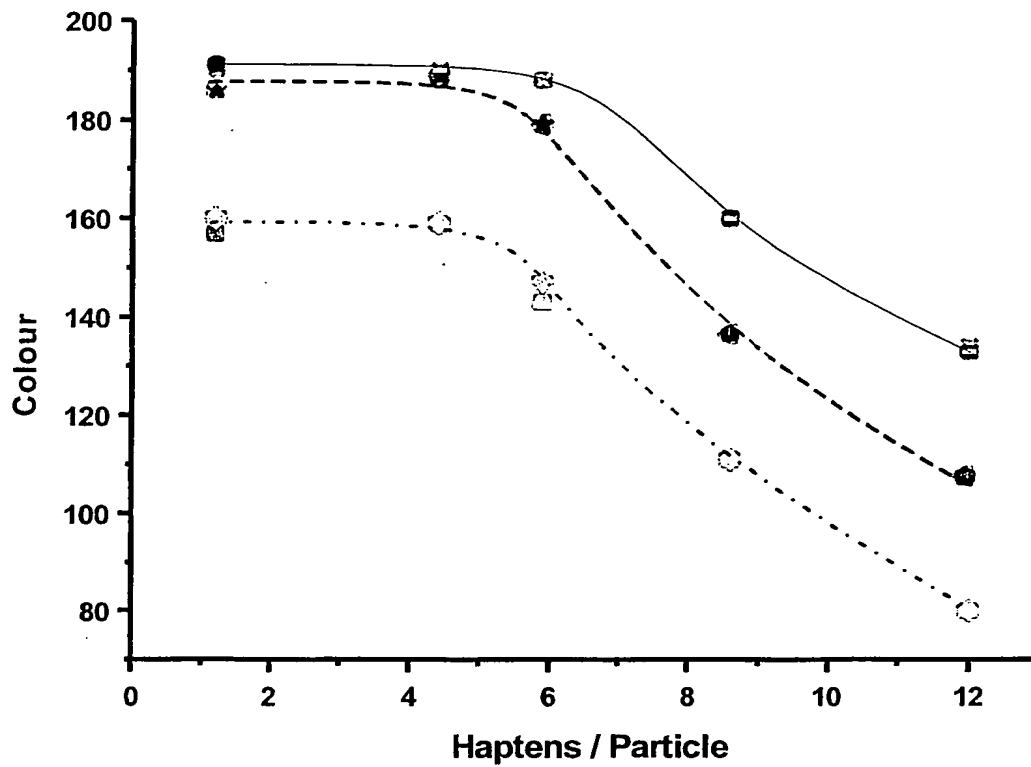
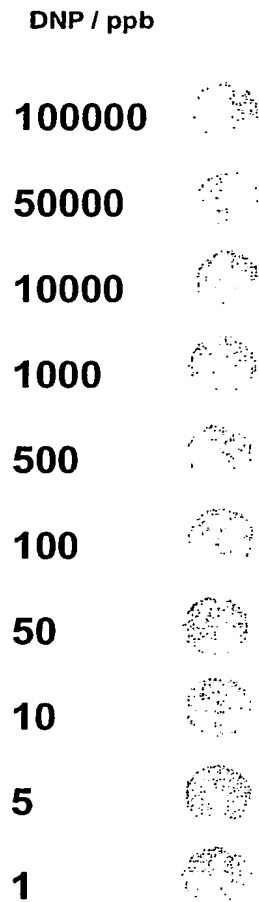


Figure 22



Rec'd PCT/PTO 31 MAY 2005

Figure 23

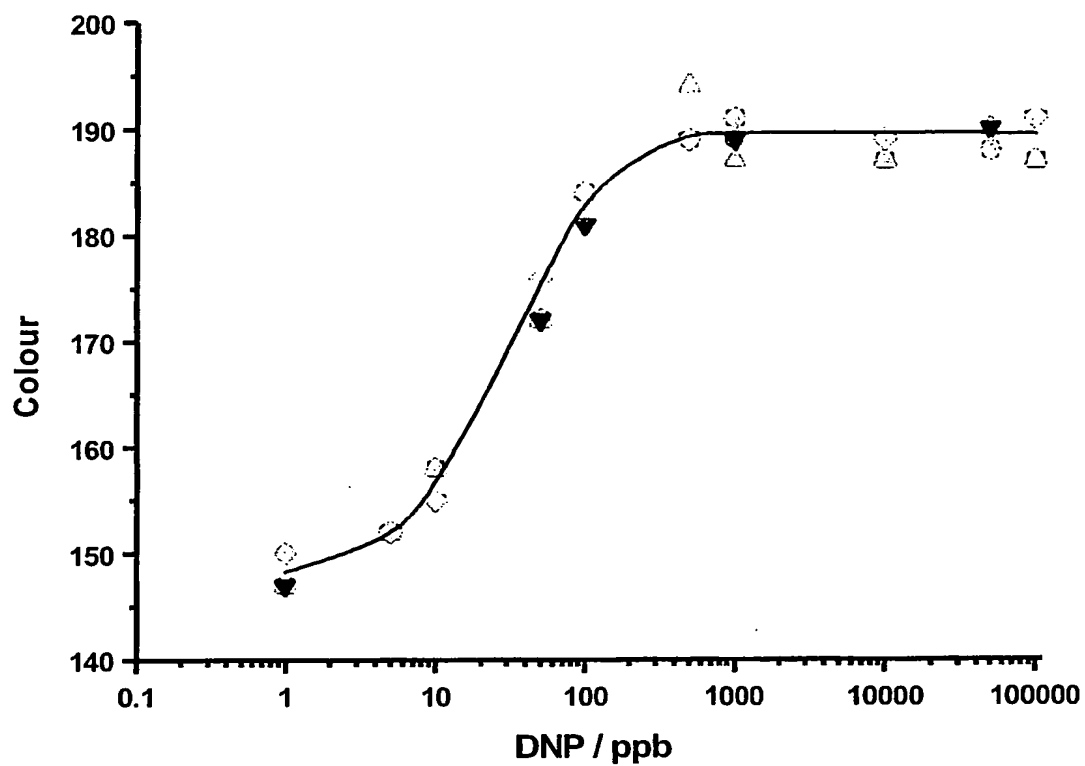


Figure 24

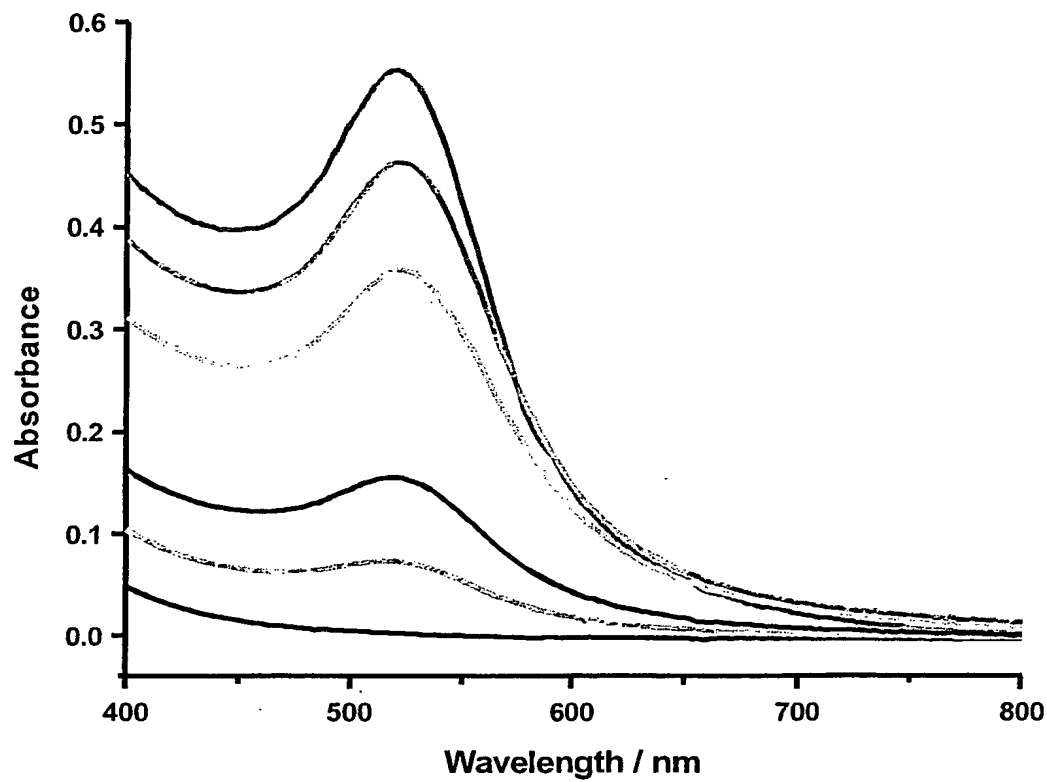


Figure 25

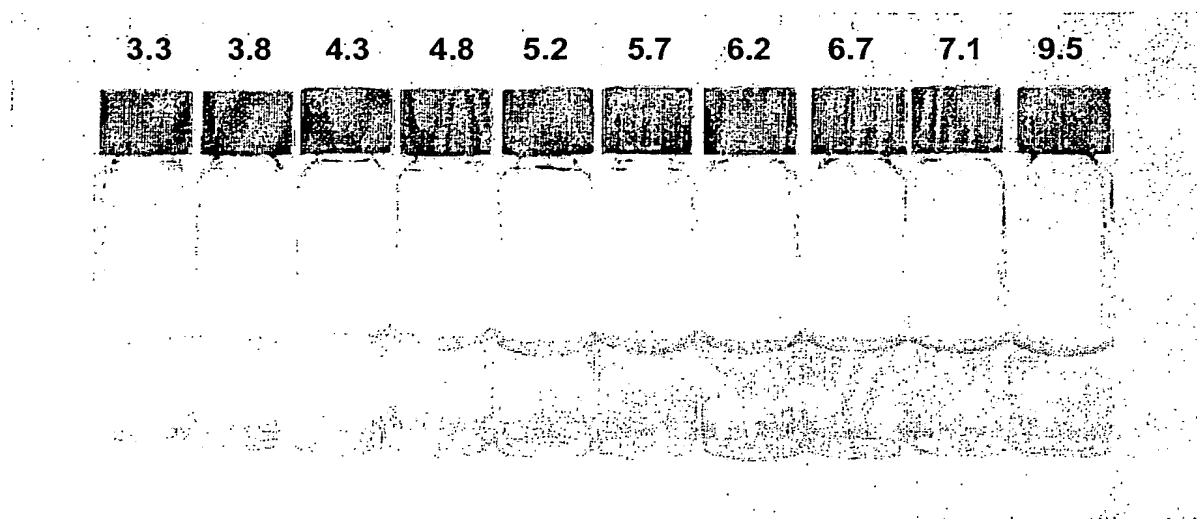


Figure 26

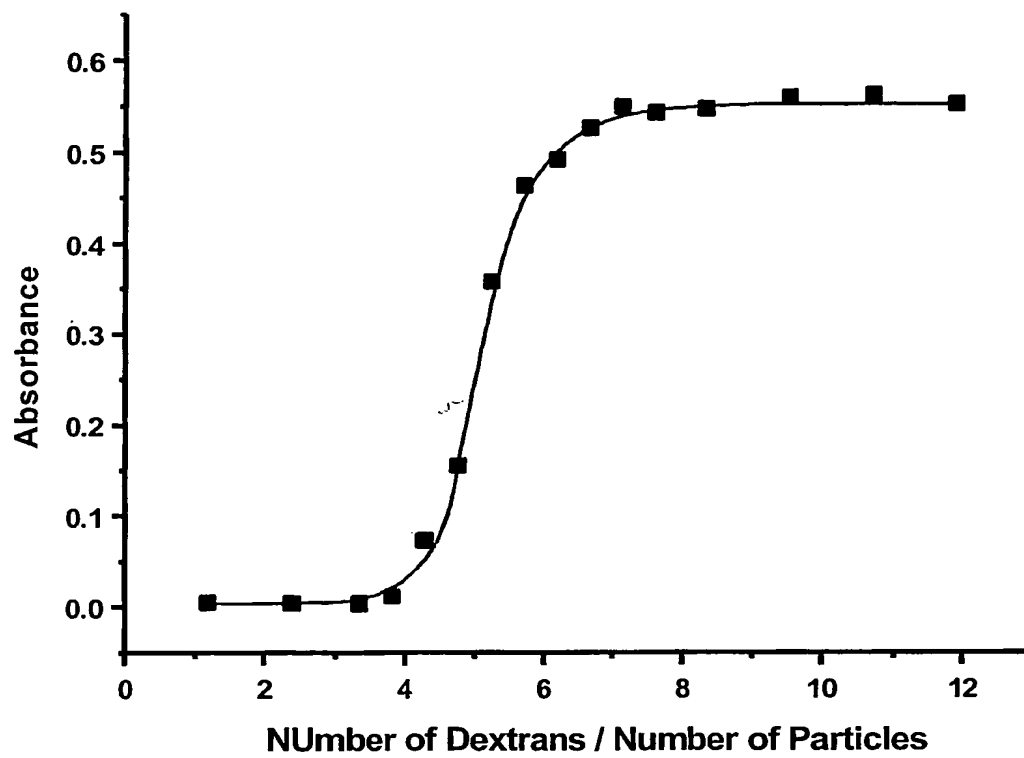


Figure 27

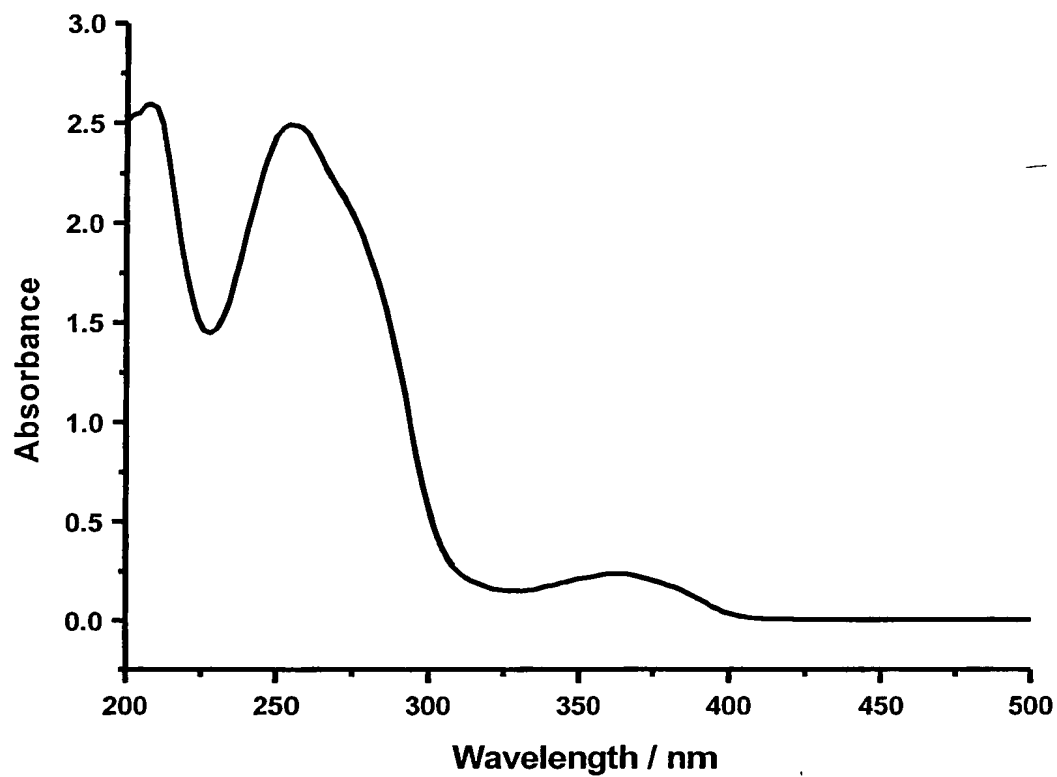


Figure 28

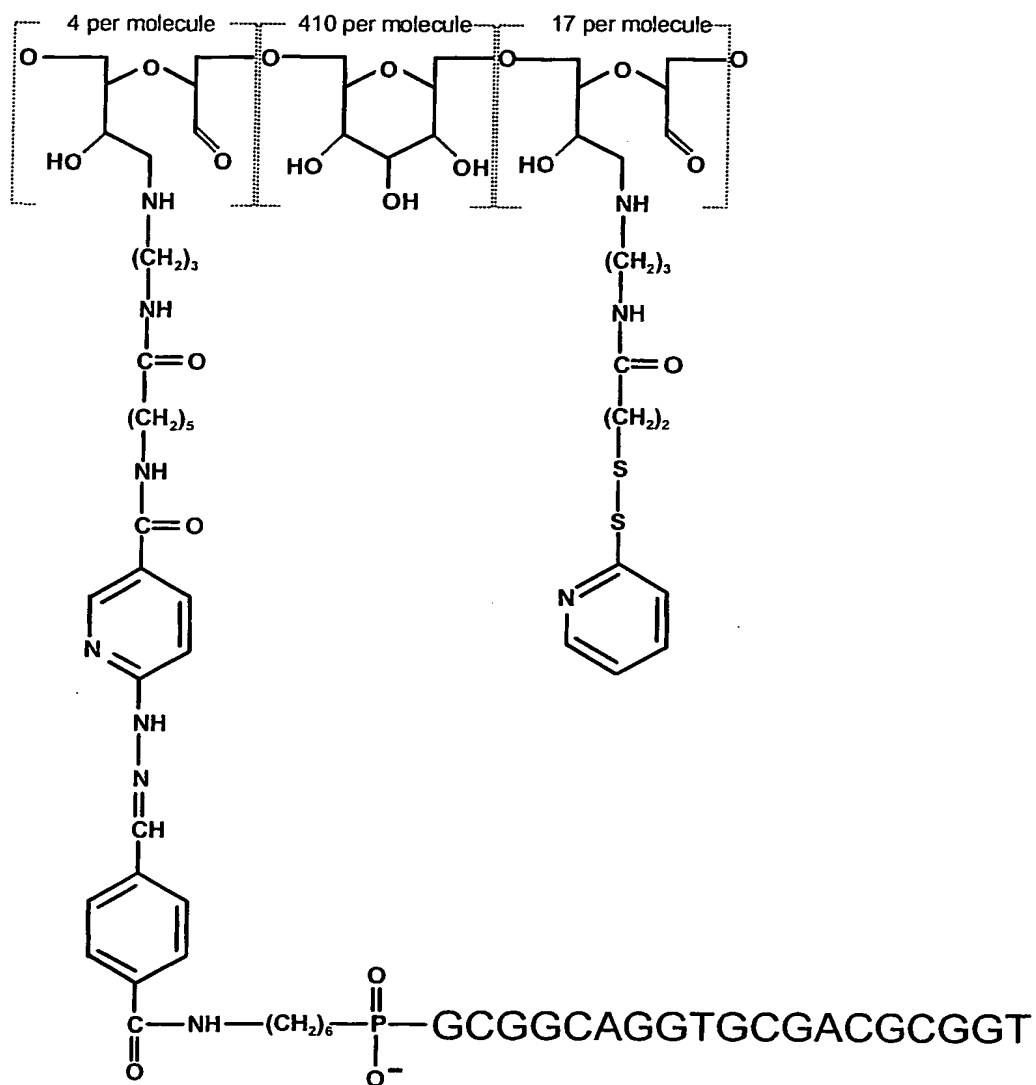


Figure 29

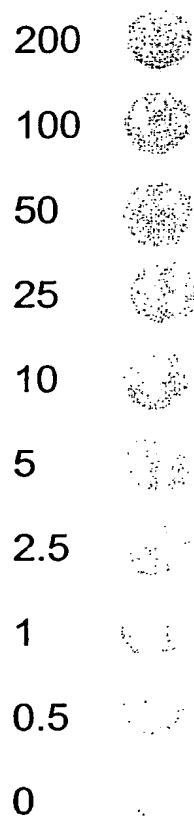


Figure 30

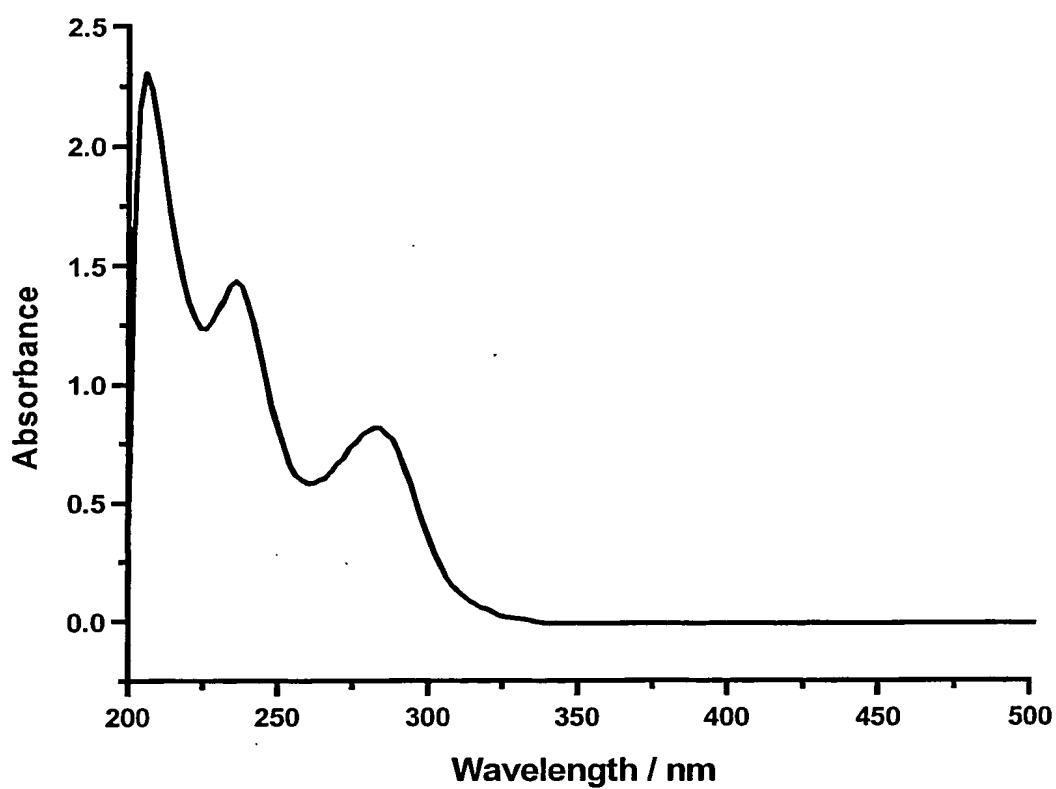
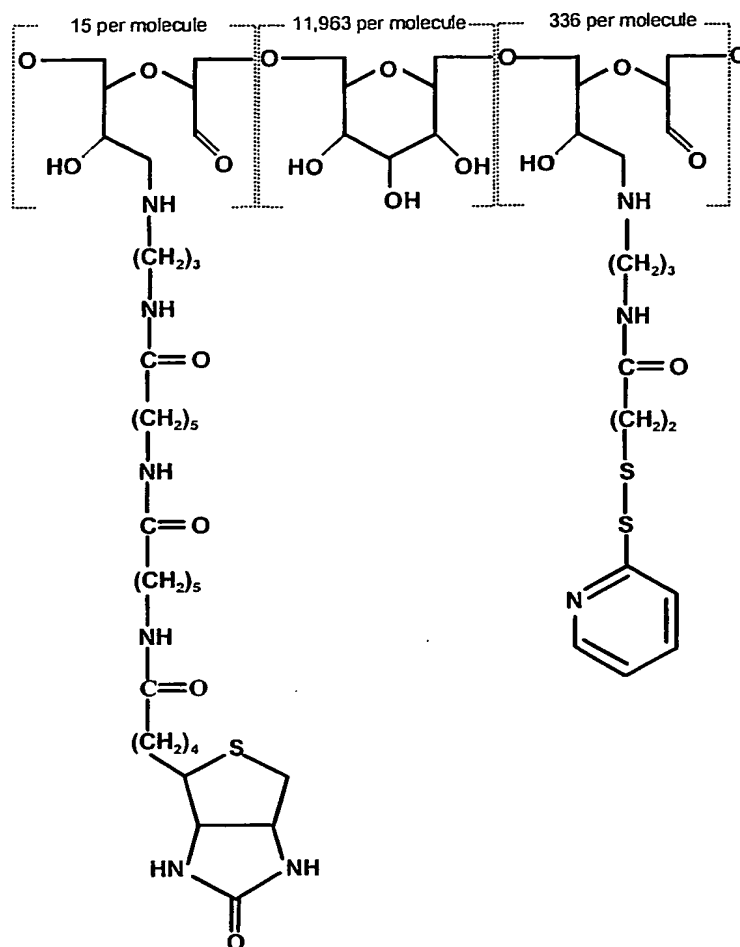


Figure 31



Rec'd PCT/PTO 31 MAY 2005

Figure 32

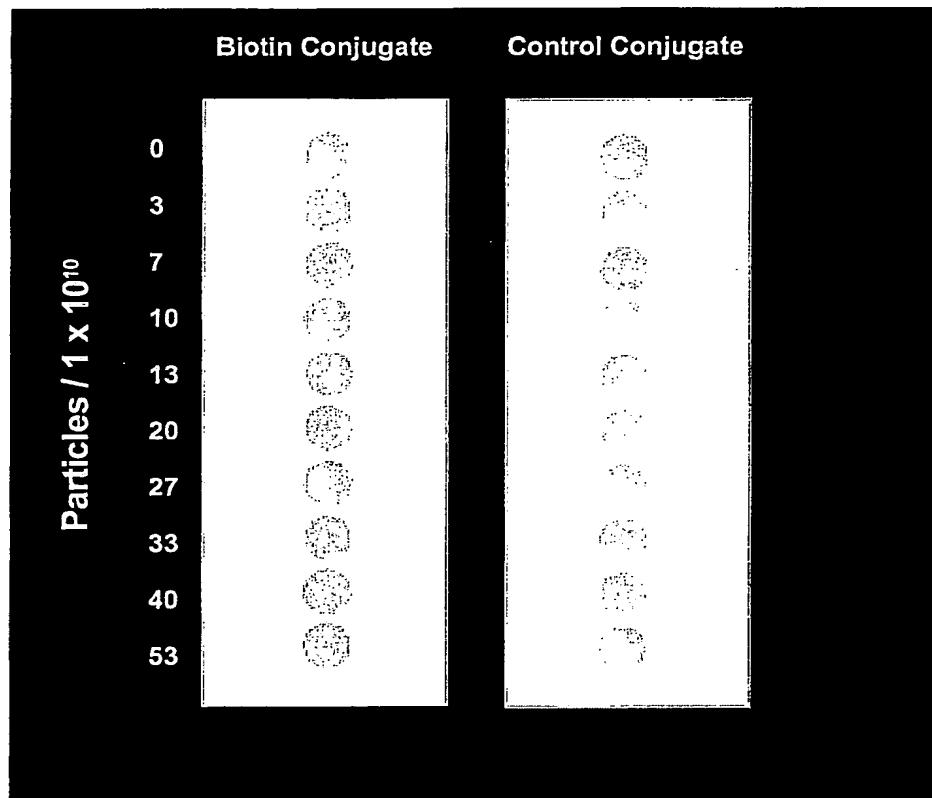


Figure 33

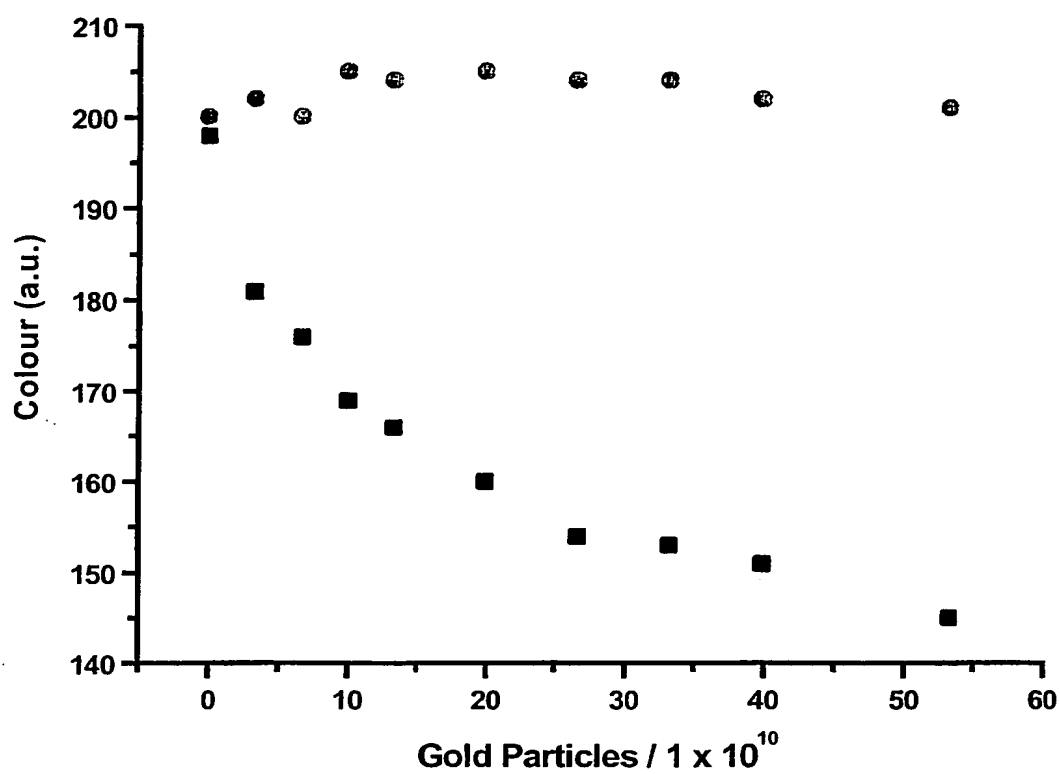


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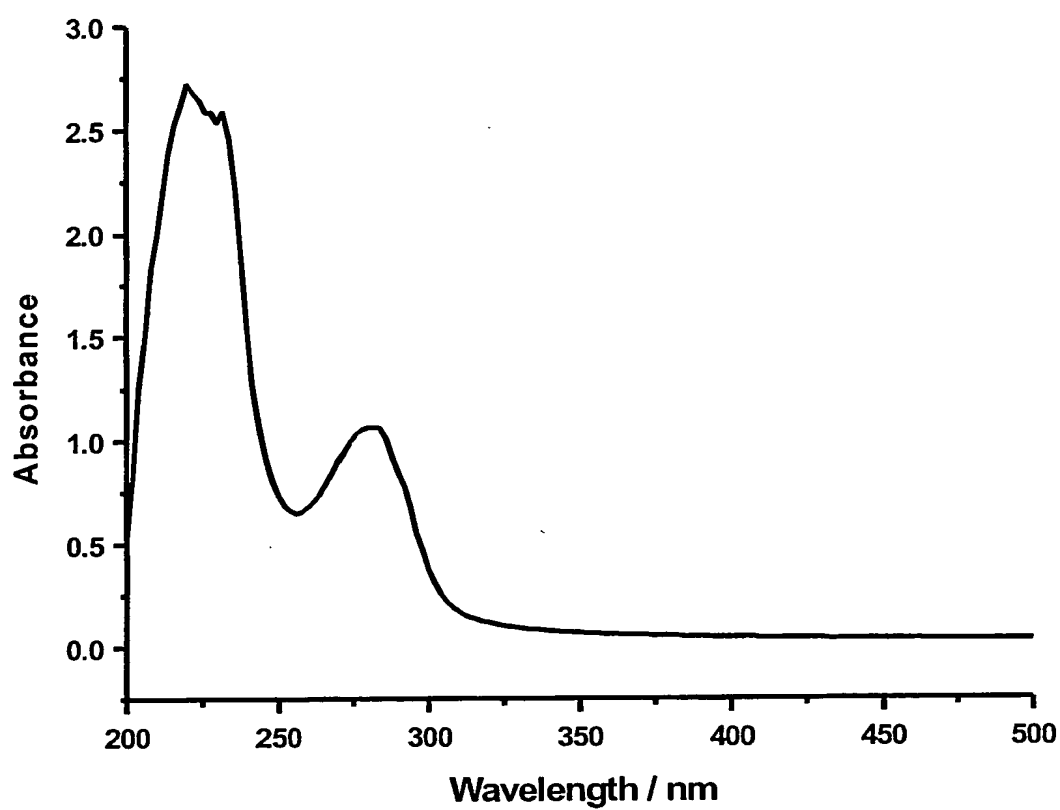


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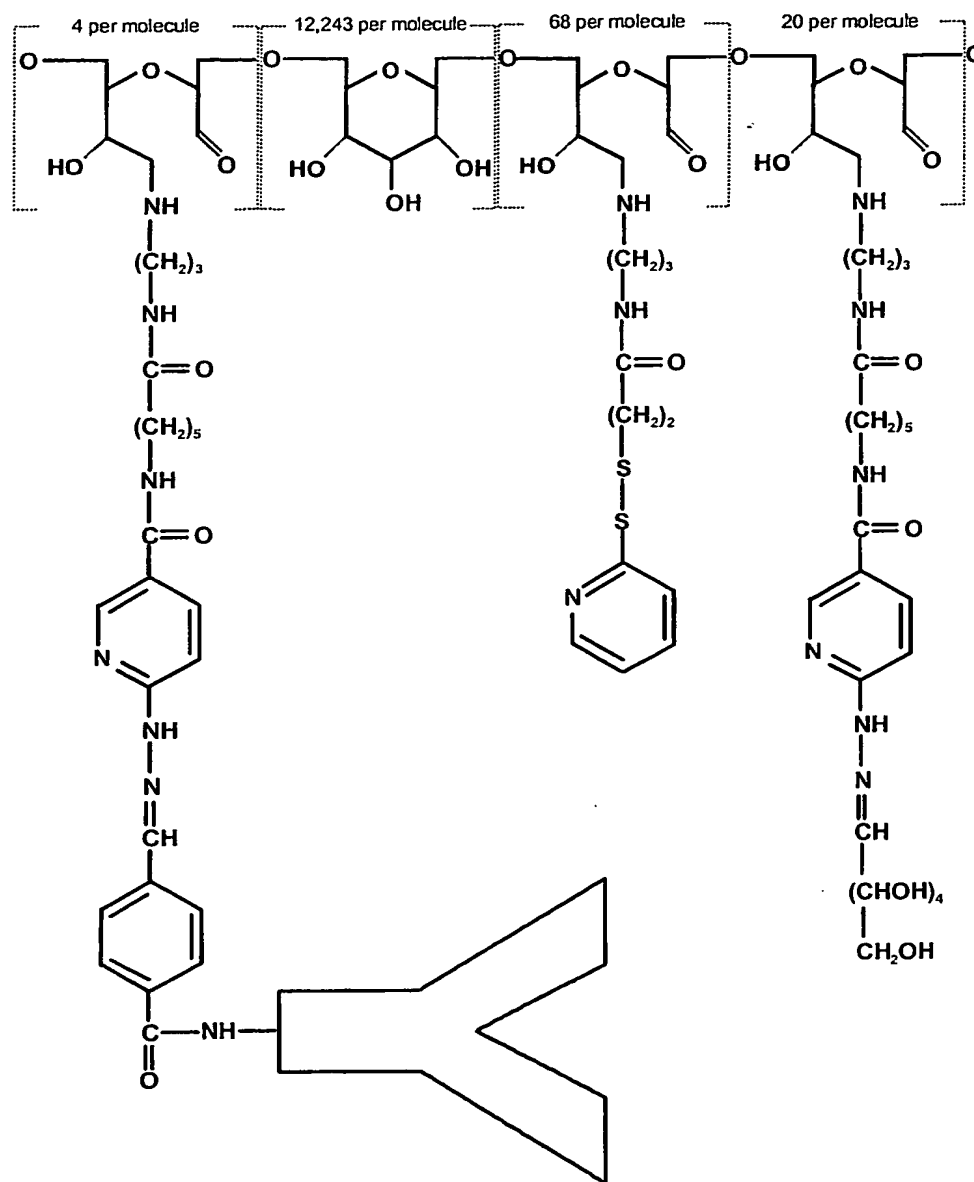


Figure 36

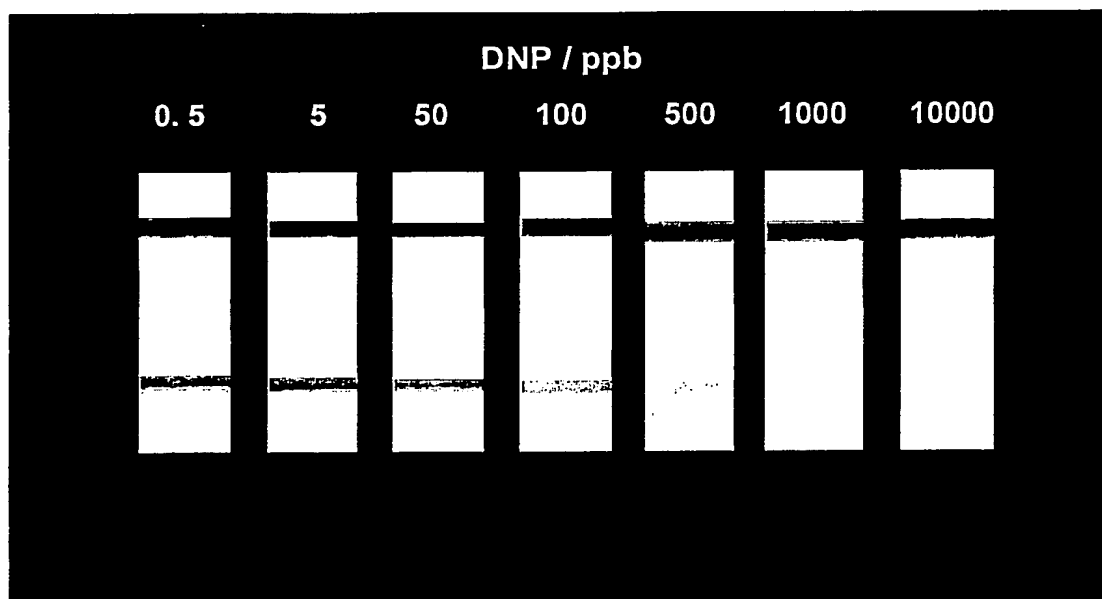


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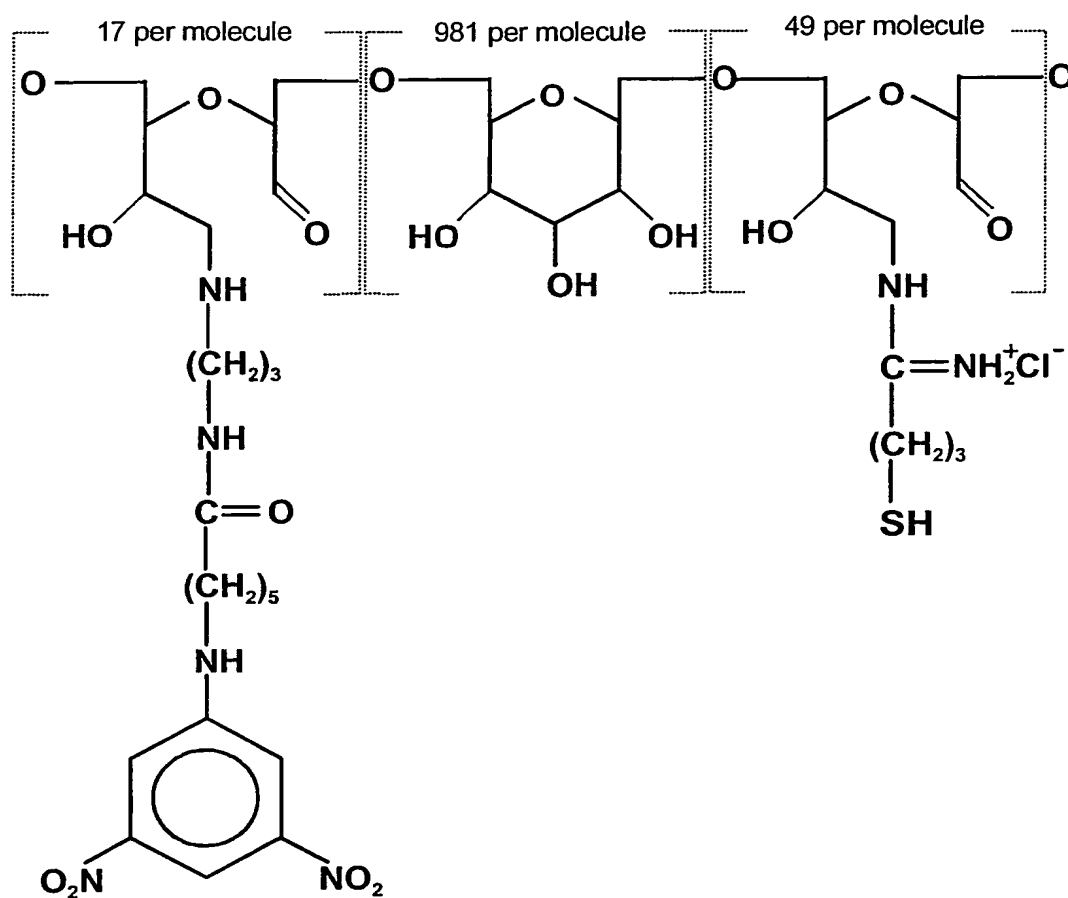


Figure 38

DNP / ppb

0

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